

munity Chest, and was chairman of its Health Council for five years. When the Federal Agricultural Workers' Health and Medical Corporation was formed in 1928 for California and adjacent States, he took a prominent part in its organization, and has been a member of its Board of Directors since that time. For some years he has also served in the Bay region on the board of Directors of Hospital Service of California.

Dr. Schaupp's immediate family consists of himself, Mrs. Schaupp and three sons, one of whom will receive his degree this year to enter service in the Navy, the other being in the senior class at the Medical School of Stanford, and the third still in high school, but likewise looking forward to becoming a disciple in the profession of medicine.

\* \* \*

**Love of Medical Profession Leads Many Physicians to Render Service Through Organized Medicine.**—As indicated above, service to the profession, through organized medicine and official responsibilities in medical societies, has always had lure for many physicians. In this issue of CALIFORNIA AND WESTERN MEDICINE appear the photograph and a biographical sketch of the Founder of the California Medical Association, Benjamin Franklin Keene.\* Every member of the Association should take the time to read the absorbing outline of his life, and what the colleagues of his day (1856) thought of him. The record of his brief life, indeed, redounds with accounts of service to others.

\* \* \*

**Other Officers Who Were Elected.**—For the information of readers, the list of newly-elected officers and delegates is given below:

Karl L. Schaupp, M. D.....President-Elect  
San Francisco

Lowell S. Goin, M. D.....  
.....Speaker of the House of Delegates  
Los Angeles

E. Vincent Askey, M. D.....  
.....Vice-speaker of the House of Delegates  
Los Angeles

#### Councilors

Donald Cass, M. D....Councilor Second District  
Los Angeles

R. Stanley Kneeshaw, M. D.....  
.....Councilor Fifth District  
San Jose

Frank A. MacDonald, M. D.....  
.....Councilor Eighth District  
Sacramento

Sam J. McClendon, M. D....Councilor-at-Large  
San Diego

Edwin L. Bruck, M. D....Councilor-at-Large  
San Francisco

\* For sketch of Founder Benjamin Franklin Keene, see page 297.

See also interesting letter on page 331 from Doctor John C. King, President of California Medical Association in 1910.

#### Delegates to the American Medical Association

Edward N. Ewer, M. D., Oakland

Edward M. Pallette, M. D., Los Angeles

Robert A. Peers, M. D., Colfax

William R. Molony, M. D., Sr., Los Angeles

Dwight L. Wilbur, M. D., San Francisco

#### Alternates to the American Medical Association

Frank R. Makinson, M. D., Oakland

William H. Kiger, M. D., Los Angeles

F. N. Scatena, M. D., Sacramento

Ralph B. Eusden, M. D., Los Angeles

Names of Committeemen and other appointed officers will be given in the official minutes of the 71st annual session, to appear in the June issue of CALIFORNIA AND WESTERN MEDICINE.

#### Headquarters' Office

George H. Kress, M. D.....

.....Secretary-Treasurer and Editor

John Hunton.....Executive Secretary

#### PROPOSED "BASIC SCIENCE INITIATIVE" FOR CALIFORNIA

**"Basic Science" and "Basic Subject" Acts.**—CALIFORNIA AND WESTERN MEDICINE, in its issue of April, on pages 228 and 229, reproduced two documents of unusual significance; one, a letter on the stationery of the Board of Chiropractic Examiners of the State of California, signed by the Board's secretary, and the other, a communication from a "Coördinating Committee." Every licensed physician and surgeon owes it to himself and his profession to scan these two epistles, and to ponder concerning their significance. It is not known at this writing whether the Chiropractors will be able to secure, prior to June 5, 1942, the 212,117 valid signatures of voters on petitions that are necessary to give their "Basic Subjects Act" a place on the November, 1942 state ballot.

As regards the "Basic Science Act," sponsored by a group in which the California Medical Association is a member, it may be stated that satisfactory progress is reported, and that every proper effort will be made to realize the objectives of those who are in favor of a Basic Science law.

\* \* \*

**Summary Concerning Basic Science Laws of the United States.**—The annual "State Board" number of the *Journal of the American Medical Association* appeared as its issue of May 9, 1942, and from the comments given under the caption, "Basic Science Boards," on pages 176-177, the following interesting statistical information is taken:

#### BASIC SCIENCE BOARDS

"Basic Science requirements underlying the practice of the healing art have been created by legislative action in sixteen states and the District of Columbia. These acts provide certification by a board of examiners in the basic sciences as a prerequisite to eligibility for a license to practice any branch of the healing art, whether the license

is to be issued after written examination or on the basis of endorsement of credentials or reciprocity. Connecticut and Wisconsin, in 1925, were the first states to enact laws. The most recent addition to the list, and the only new one added in 1941, was New Mexico. While the Basic Science laws in some states include reciprocal agreements, the certificate is obtainable only after examination in the majority of instances. . . .

"In 1941 Basic Science boards were in operation in Arizona, Arkansas, Colorado, Connecticut, the District of Columbia, Florida, Iowa, Michigan, Minnesota, Nebraska, New Mexico, Oklahoma, Oregon, Rhode Island, South Dakota, Washington and Wisconsin. . . .

"There were 2,148 candidates in the various groups examined last year by the seventeen boards named. Of this number 1,768 were doctors of medicine or medical students, 151 osteopaths, 16 chiropractors, and 189 were placed in the unclassified group. Of all applicants examined, 1,751 passed and 397, 18.5 per cent, failed. Of the physicians examined 11.8 per cent failed; osteopaths 36.4 per cent, chiropractors 68.8 per cent and unclassified 52.4 per cent. Among those who passed there were 1,560 physicians, 96 osteopaths, 5 chiropractors and 90 who were unclassified. Ten doctors of dentistry passed but none of the naturopaths. Iowa examined the greatest number, 295, of whom 35.6 per cent failed. The next largest number, 264, were examined in Minnesota, with 18.9 per cent failures. One other state examined more than 200, Florida, of whom 13.0 per cent failed."

## EDITORIAL COMMENT†

### SAPROPHYTIC ANTITOXINS

An entirely new field of practical therapeutic research is initiated by Neter's<sup>1</sup> current demonstration that certain enzymes, isolated from saprophytic bacteria, are able to neutralize or destroy toxins formed or secreted by virulent pyogenic cocci.

Antagonism between pathogens and environmental saprophytes has been of research interest for many years.<sup>2</sup> Fleming,<sup>3</sup> for example, obtained a substance from *Penicillium notatum* ("penicillin"), which is markedly antagonistic to pyogenic cocci and diphtheria bacilli. Since this substance is not antagonistic to *B. influenzae*, the substance has been used as an aid in the isolation of this organism. Somewhat later Waksman<sup>4</sup> isolated two similar bacteriostatic agents ("acti-

nomycins A and B") from *Actinomyces antibioticus*. Of greater clinical interest, however, are "gramicidin" and "tyrocidin," recently isolated by Dubos<sup>5</sup> from *Bacillus brevis*. Gramicidin acts solely upon gram-positive bacteria, while tyrocidin is also bactericidal or bacteriostatic for gram-negative bacteria. A mixture of these two substances is at present commercially available under the trade name, "tyrothricin."

The latest addition to this rapidly-growing list of saprophytic antiseptics is "streptothricin," recently isolated by Waksman<sup>6</sup> from certain soil *Actinomyces*. In contrast with most of the earlier saprophytic products, Streptothricin is primarily active against gram-negative bacteria (e.g., *B. coli*). Since it is active in the presence of agar, it is of promise in the preparation of differential culture media.

In view of the successful isolation of antibiotic agents from environmental saprophytes, the question arises as to whether or not some of these agents may not also act upon cell-free bacterial toxins. In order to test this possibility, Neter selected two toxin-like products: (a) the anti-human fibrinolysin, secreted by virulent strains of hemolytic streptococci, and (b) the coagulase formed by certain highly virulent staphylococci. Both of these fractional toxins were tested against tyrothricin and actinomycin A. In a typical test, constant amounts of cell-free fibrinolysin were mixed with increasing amounts of tyrothricin, and the resulting mixtures tested for their lytic action on human plasma clots, by the technique of Tillett and Garner.<sup>7</sup> In test tubes containing 0.001 mg. or more tyrothricin, the arbitrary dose of fibrinolysin was completely neutralized or destroyed. Similar quantitative neutralization was noted in the presence of 0.0005 mg. actinomycin A. In similar tests with staphylococcus coagulase, neutralization was also complete with 0.001 mg. tyrothricin or 0.005 mg. actinomycin A.

Since fibrinolysin and coagulase play important rôles in the pathogenesis of streptococcal and staphylococcal infections, the two saprophytic products, tyrothricin and actinomycin A, can be conveniently classified as fractional antitoxins. Whether or not these microbic antitoxins are active in the animal body, has not yet been determined.

P. O. Box 51.

W. H. MANWARING,  
Stanford University.

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† This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comments by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California Medical Association to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.